Epidemiology of Airway Disease – COPD and Asthma in India

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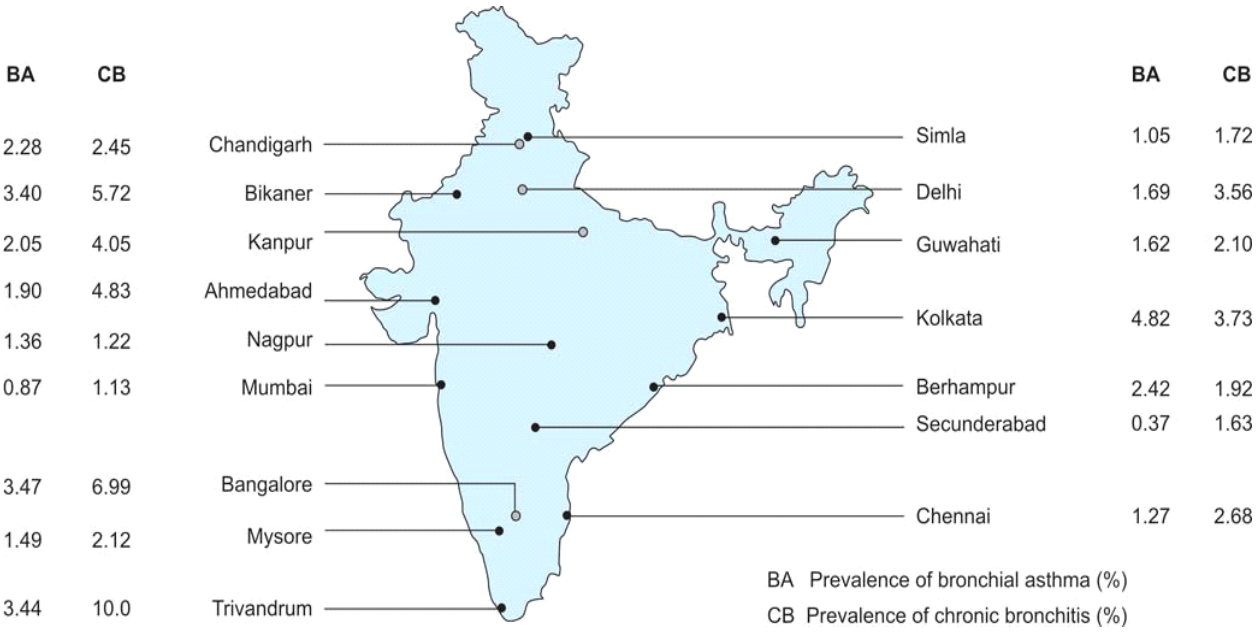
Chronic respiratory diseases (CRD) which primarily include bronchial asthma (BA) and chronic obstructive pulmonary disease (COPD) are estimated to account for 7% of deaths and 3% of loss of disability adjusted life years (DALYs). The previously published studies reported highly variable prevalences of both asthma and COPD. Most of those studies had significant differences in their definitions of diseases, methodologies, analysis and interpretation. A multi-centre population study, Indian study on Epidemiology of Asthma, Respiratory symptoms and Chronic bronchitis (INSEARCH) was therefore undertaken in two phases – 4 centres in phase I and 12 centres in phase II. The centres, both rural and urban, were spread over different parts of India. The study employed uniform definitions and methodology.

A two stage stratified sampling design was used considering the district as a unit. The study-questionnaire was based on the Union's English questionnaire (1984), translated to Hindi and other regional languages, tested for its reliability and validity. The questionnaire-diagnoses of asthma and chronic bronchitis (CB) were based on separate sets of questions which were pre-defined before the analyses. The national burden was calculated based on the standardized prevalence estimates as per the 2011 population estimates.

The Phase I study included 73605 individuals of whom 2.38% were diagnosed to have asthma. Chronic bronchitis (CB) was diagnosed in 4.1% of 35295 subjects of over 35 years of age. The study population consisted of 85103 men and 84470 women in the phase II study. The overall prevalence of asthma and CB were 2.05% (adults aged ≥ 15 years age) and 3.49% (adults of ≥ 35 years age) respectively.

Advancing age, smoking, household environmental tobacco smoke (ETS) exposure, asthma in a first degree relative and use of unclean cooking fuels were associated with increased odds of asthma and CB. The national burden of asthma and CB was estimated at 17.23 and 14.84 million respectively.

In spite of some limitations, the INSEARCH report provides good estimates of the population prevalences, risk factors and national burden of asthma and CB in India.



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